

## Claims

1. A method for measuring the molecular rotation speed of a fullerene or a fullerene derivative which comprises having a thin film of the fullerene or the fullerene derivative absorb an electromagnetic wave varied in frequency, and measuring the change in electromagnetic wave intensity against temperature, thereby determining the molecular rotation speed of the fullerene or the fullerene derivative from the frequency of the electromagnetic wave at a temperature where there is an abrupt change in the electromagnetic wave intensity from the absorption region to the non-absorption region.

2. The method for measuring the molecular rotation speed of a fullerene or a fullerene derivative according to claim 1, wherein electromagnetic waves produced from the surface of a surface acoustic wave device are used.